

Appl. No. 10/605,500
Amdt. dated June 8, 2006
Reply to Office action of March 20, 2006

REMARKS

Response to Claim Objections

5 Claim 3 has been amended to correct a typographical error pointed out by the Examiner. Particularly, the error of "positionover" has been deleted in response to a claim rejection below. Therefore, as this error has been amended, applicant points out that this claim should no longer stand in objection with Examiner requirements. Consideration of the amendment is respectfully requested.

Changes to the Specification

10 Paragraph [0056] of the specification has been amended to properly correspond with supplied drawings. Particularly, flow chart references that were incorrectly labeled have now been corrected. Amendments performed were purely typographical in nature, and do not introduce additional subject matter. Consideration of the amendment is respectfully requested.

Response to Claim Rejections

15 Claims 3 and 12 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. Claims 4-5 are also rejected under U.S.C 112, since they are dependant on claim 3.

20 Claims 3 and 12 have been amended to remove the limitation "specified in a master position over the sentence" and further clarify the claimed subject matter. These amendments are fully supported in the original disclosure with no additional or new subject matter included. Applicant respectfully requests reconsideration of these claims in view of the requested amendments.

As claims 4-5 are dependant on claim 3, applicant asserts that if an allowance is

Appl. No. 10/605,500
Amdt. dated June 8, 2006
Reply to Office action of March 20, 2006

made for claim 3, then claims 4-5 should be allowed as being dependant on claim 3.
Reconsideration for claims 4-5 is respectfully requested.

Claims 1-2, 6-10, and 15-20 are rejected under 35 U.S.C 102(c) as being anticipated by Horvitz et al. (Horvitz hereinafter) US 6,505,167.

5 Applicant asserts that claims 1-2, 6-10 and 15-20 are not anticipated by Horvitz, as
Horvitz teaches an alternate method for the computerized extracting of scheduling
information from a natural language test for automatic entry into a calendar application.
Applicant maintains the uniqueness and novelty of the present invention in light of the
teachings of Horvitz with the discussion to follow. Comments regarding specific claim
10 rejections are detailed below.

 Regarding claim 1, applicant asserts that Horvitz does not teach "determining if the
natural language text contains scheduling information by calculating a probability sum for
the dependency tree" as recited in step (b). Applicant points out that the Examiner has
divided the above step into two parts for the claim rejection, and has used remarks
15 applicable to only to the individual parts of step (b), while not considering step (b)
presented in its entirety. Specifically, the first part of step (b) (determination of a text
containing scheduling information) is not performed through the second part (a
probability sum calculation for the dependency tree of the text) according to Horvitz.

 Applicant asserts that Horwitz performs "determining if the natural language text
20 contains scheduling information" as recited in the first part of step (b) through a "feature
selection phase is used to maximally discriminate between messages that should be
scheduled, and messages that should not be scheduled" (Col 8 lines 40-42). Applicant
asserts that the criteria for discriminating between messages that should and shouldn't be
scheduled must be through the inclusion of scheduling information in the message, and
25 hence the feature selection phase as described by Horwitz is substantially equal to the first
part of step (b) described above in the present invention. However, Horwitz teaches that

Appl. No. 10/605,500
Amdt. dated June 8, 2006
Reply to Office action of March 20, 2006

feature selection "is accomplished by training the model...the model can then determine a maximum discrimination between those messages are scheduling related" (Col 8 lines 42-53) and "feature selection occurs based on an initial seeding with domain-specific knowledge... The domain-specific knowledge can contain words and phrases that typically are associated with scheduling-related messages" (Col 8 lines 63-65". Therefore, applicant points out that Horwitz teaches feature selection based on identification, or discrimination(emphasis added) of words within a domain-specific knowledge vocabulary (See Fig 6). This is in contrast to the present invention, where statistical measures are used to determine scheduling information by calculating a probability sum for the dependency tree.

Additionally regarding claim 1, applicant points out that Horwitz does not teach "calculating a probability sum for the dependency tree" as defined in the above limitation. The model of Horwitz (dependency tree as suggested by the Examiner) is formed by "a number of messages based on which scheduling is to occur...and a number of messages based on which scheduling is not to occur...such that the phase knows a priori" (Col 8 lines 42-48). Horwitz therefore uses a plurality of past messages for the model, which differs from the dependency tree of the present invention, in that it is based on parsing the current natural language text (step (a)). Reconsideration for claim 1 is respectfully requested.

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Regarding claim 2, applicant points out that figure 2 more specifically illustrates the entry of text from window 200 into scheduling program window 202, and does not teach segmenting of each sentence in the natural language text into words, and comparing word pairs in the natural language text with a dependency database as disclosed in the limitation for claim 2. Horwitz teaches "parsing the text of the electronic message, and entering the entry in the scheduling program as is shown in the window 202" (Col 5 lines

Appl. No. 10/605,500
Amdt. dated June 8, 2006
Reply to Office action of March 20, 2006

57-59) for Fig. 2. Therefore, applicant points out that Fig. 2 of Horvitz does not teach comparing parsed words from window 200 with the list/database of Fig. 6 as suggested by the Examiner, as the parsed words are directly entered into scheduling program window 202.

5 Additionally, applicant asserts that Fig.2 and Fig.6 of Horvitz does not teach "adding the word pairs found in the dependency database as dependency pairs to the dependency tree" as recited in claim 2. Examiner has suggested that after comparison of words to the list/database of Fig.6, it is then adding words from the list/database of Fig.6 to the original model. Applicant points out that Fig. 6 is simply an example list of phrases independent
10 from Fig.2. The two figures in conjunction do not illustrate adding word pairs in the dependency database to the dependency tree, as Horvitz does not explicitly suggest such action in the disclosure or figures. In view of the above rationale, reconsideration of claim 2 is respectfully requested.

 Regarding claims 6-9, applicant asserts that claims 6-9 are dependant on claim 1.
15 Should an allowance be made for claim 1, applicant asserts that an allowance be similarly made for claims 6-9 as being dependant on claim 1. Reconsideration for claims 6-9 is respectfully requested.

 Regarding claim 15, applicant asserts that Horvitz does not explicitly teach when building the dependency database, the processor further segmenting each sentence in the
20 text corpus into words. Examiner has suggested parsed words of Fig. 2 are compared to list/database of Fig. 6, however, applicant points out that Fig. 2 and Fig. 6 are presented as independent of each other, and do not suggest to comparison of parsed words from Fig. 2 to the list/database of Fig. 6. For further details, please see remarks for claim 2. Applicant respectfully requests reconsideration for claim 15 as Horvitz does not explicitly
25 teach the subject matter disclosed within the aforementioned claim.

 Regarding claims 10, 17- 20, and 16 applicant points out that these are apparatus

Appl. No. 10/605,500
Amdt. dated June 8, 2006
Reply to Office action of March 20, 2006

claims corresponding to method claims 1, 6-9, and 15 respectively, which were rejected for similar reasons as corresponding method claims. Should allowances be made for the above listed method claims 1, 6-9, and 15, applicant similarly requests reconsideration for the allowance of corresponding apparatus claims for the same rationale provided.

- 5 **Claims 3-5 and 11-14 are rejected under 35 U.S.C 103 (a) as being unpatentable over Horvitz (US 6,505,167) as applied to claims 1-2, 6-10, and 15-20 above, in view of Dehlinger (US 2004/0006547)**

Regarding claim 3, applicant asserts that Horvitz does not teach comparing parsed words of a sentence to a list/database, and adding such words to a model through Fig.2
10 and Fig. 6. Applicant points out that both figures are independent, and the corresponding specification of Horvitz does not teach the interlinking method as suggested by the Examiner. Further details can be found in the remarks made for claim 2.

Additionally, applicant asserts that Dehlinger does not disclose "forming a head word list of all possible head words in the sentence" as disclosed in the limitation for
15 claim 3 of the present invention. Examiner has quoted "to process a target input text into meaningful search terms, that is, descriptive words, and optionally, word pairs" (Para 100) while interpreting descriptive words as headwords. Applicant asserts that a descriptive word cannot be interpreted as a headword, as a headword is a lead word within a word pair. Dehlinger distinguishes between the two by stating "a database of descriptive word
20 pairs in a manner similar to the operation of the program in generating the database of descriptive words" (para 85) to illustrate that a descriptive word is not an element of a word pair. Furthermore, Dehlinger describes the elements within word pairs numerically, "If the string contains only three words, form the three permutations of word pairs, i.e., first and second word, first and third word, and second and third word" (para 135), where
25 the term "descriptive word" is not used to describe elements of word pairs. Because Dehlinger does not teach a "descriptive word" to be an element of a word pair, applicant

Appl. No. 10/605,500
Amdt. dated June 8, 2006
Reply to Office action of March 20, 2006

asserts that the term "descriptive word" cannot be interpreted as a headword, since a headword is an element within a word pair as disclosed in the limitation for claim 2.

Because Horvitz does not teach comparing parsed words of a sentence to a list/database, and adding such words to a model, and Dehlinger does not teach forming a head word list of all possible head words in the sentence, applicant asserts that the two teachings cannot be merged together to arrive at the limitation disclosed in claim 3 of the present invention. Reconsideration for the allowance of claim 3 is respectfully requested.

Regarding claim 4, applicant asserts that Horvitz does not teach comparing parsed words of a sentence to a list/database, and adding such words to a model through Fig.2 and Fig. 6. Further details can be found in the remarks made for claim 2.

Additionally regarding claim 4, applicant asserts that Dehlinger does not properly determine the head word using a tagged corpus. Applicant points out that Dehlinger does not describe a descriptive word as an element of a word pair, and therefore, a descriptive word cannot be a headword because a headword is an element of a word pair. Further details can be seen in remarks for claim 3, where the same rationale applies.

Applicant also points out that Dehlinger does not "check the validity of the word pair using violation constraints, wherein the tagged corpus specifies the actual head words for sentences relevant to scheduling information in the text corpus and contains dependencies for all other words with respect to the actual head words, and the violation constraints specify illegal dependency structures" as recited in the limitation for claim 4. Examiner has provided paragraphs (132-135) as reference, where Dehlinger goes on to state "word strings may be used to generate word groups...by constructing every permutation of two words contained in each string...and indicated at 88 at the figure". Applicant points out that the reference provided by the examiner only demonstrates that Dehlinger generates word pairs (element 88 reads "generate word-pairs") as opposed to checking word pair validity using violation constraints specifying illegal dependency structures. More

Appl. No. 10/605,500
Amdt. dated June 8, 2006
Reply to Office action of March 20, 2006

particularly, Delinger only specifically describes two-word pairs in (para 143) with the obvious statement "if the string contains only two words, a single two word pair is formed", and does not teach the checking of word pair validity. Applicant asserts that generating word pairs does not imply checking word pairs, as they are not gauged against
5 a set of standards, or more specifically in this case, gauged against predefined violation constraints as disclosed in the above limitation.

In summary, applicant asserts that Horvitz does not teach comparing parsed words of a sentence to a list/database, and adding such words to a model through Fig.2 and Fig. 6. Also, applicant asserts that Dehlinger does not properly determine the head word using a
10 tagged corpus and check the validity of the word pair using violation constraints. Given Horvitz and Dehlingers respective inability to demonstrate the above features, applicant asserts that it is not obvious to combine their respective teachings to arrive at the limitations disclosed in claim 4 of the present invention. For at least the above mentioned reasons, reconsideration of claim 4 is respectfully requested.

15 Regarding claim 5, applicant asserts that claim 5 is dependant on claim 2. Therefore should an allowance be made for claim 2, applicant asserts that an allowance be additionally made for claim 4 as it is dependant on claim 2.

Regarding claims 11-13 applicant points out that these are apparatus claims corresponding to method claims 3-5 respectively, which were rejected for similar reasons
20 as corresponding method claims. Should allowances be made for the above listed method claims 3-5, applicant similarly requests reconsideration for the allowance of corresponding apparatus claims 11-13 under the same rationale provided.

Regarding claim 14, applicant asserts that claim 14 is dependant on claim 13. Therefore should an allowance be made for claim 13, applicant asserts that an allowance
25 be additionally made for claim 14 as it is dependant on claim 13.

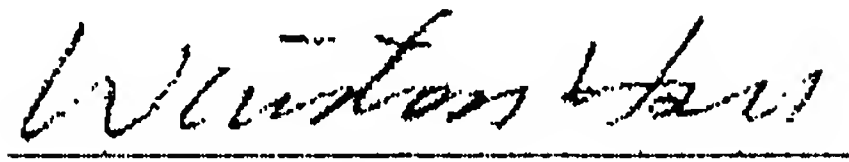
Applicant respectfully requests that a timely Notice of Allowance be issued in this

Appl. No. 10/605,500
Amdt. dated June 8, 2006
Reply to Office action of March 20, 2006

case.

Sincerely yours,

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Note: Please leave a message in my voice mail if you need to talk to me. (The time in D.C.
is 12 hours behind the Taiwan time, i.e. 9 AM in D.C. = 9 PM in Taiwan.)

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